

Instructor: Dr. Gary N. Ervin

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COURSE DESCRIPTION

Advanced graduate course focusing on the underlying biology of species invasion. The course will be taught as a discussion of a recent text, *Species Invasions: Insights into Ecology, Evolution, and Biogeography* (Sax et al. 2005), with occasional supplementation from primary literature and literature reviews.

COURSE OBJECTIVES

Gain a complete understanding of the invasion process by examining theory and case studies of the invasion process from ecological, evolutionary, and biogeographical perspectives.

METHODS OF INSTRUCTION

The initial class meeting will be led by the instructor and will consist of a general overview of invasion theory and extant attempts at generalization. The remainder of the semester will take the form of group discussions of weekly topics in invasion biology, structured as follows:

Each student will select a chapter (or two) from the text, and we will proceed from front to back through the book, covering most of the seventeen chapters. Each session will begin with one student (or occasionally two) giving a ~15-20 minute overview of the chapter, followed by a discussion of the topic. These discussions will be enhanced by each student having read not only that week's chapter but at least one additional paper on the same topic - those papers ideally will be selected by the students independent of one another.

Because the text is focused on the underlying biology of invasion, the supplementary readings could be targeted towards invasion-specific papers on the same topic (e.g., Chapter One deals with the role of biological interactions in the invasion process). Each student also will be required to bring a handout of at least one page that summarizes his/her selected paper(s), with a copy for each student, plus instructor. Those handouts should contain key figures, tables, or other information from the paper summarized.

FINAL PAPER

A final synthesis paper will be required in this course. This paper should attempt to consolidate the individual's and group's thoughts of the three general areas of invasion biology covered during the semester, incorporating papers discussed in class and no more than ten additional sources. The paper should be written in the format of a review paper from any one of the journals used as source material during the course. It is preferred that these papers be submitted electronically in either MS Word or PDF format. The following page gives more details on the required structure of the paper. There is no page requirement on this; it will be graded based on the criteria in the attached rubric sheet.

The paper should be submitted no later than the last class meeting time, Wednesday April 25.

MISC.

The standard 10-pt grading scale will be used for this course, and all University policies on attendance and student conduct are expected to be followed.

Text: Sax, Stachovicz, and Gaines, 2005. *Species Invasions: Insights into Ecology, Evolution, and Biogeography*. Sinauer Assoc., Inc., MA.

Final Paper Evaluation for: _____

SAMPLE EVALUATION FORM

Be sure to include: title, name, and date submitted

Abstract/Summary (10 pts)

This should be a brief but thorough summary of the paper.
Ideally, this will be in the 150-250 words range (300 maximum).

Introduction (10 pts)

Describe your purpose/reason for choosing the topic – professionally done.
Include a brief description of the material chosen and specific objectives of your review.

Outlined body of the paper (60 pts)

I really want to see a well-supported integration of ecological, evolutionary, and biogeographical perspectives on the process of invasion.
You might try to answer some of the questions asked in the Capstone chapter (pp. 467-480) – but don't simply rehash what the authors have already covered.

Each section of the paper should have a brief, descriptive heading, as in the textbook

Conclusion/Discussion (10 pts)

Summarize the most important points you addressed and convince the reader (Dr. Ervin) that your synthesis is accurate, important, and sound.

References (10 pts)

You must correctly cite all literature consulted in preparation of your paper (your favorite journal format).
Be sure all literature used is cited and all literature cited is used.
Use only sources that are pertinent to the topic, a few directly relevant articles are better than lots of tangentially-related ones.

The following items also will be evaluated within the point allocations given above.

Figures and tables should be embedded within the text, along with appropriate captions or legends.
If the figures are not the original work of the student, proper acknowledgement should be given to the original source (i.e., in figure caption state "From Author DATE" – e.g. "From Sax et al. 2005").

Accuracy

- Did you accurately interpret the authors' original work?
- Did you provide accurate assessments of the literature you surveyed?

Completeness

- Did you include the information you said you were going to include?
- Did you miss key publications, recent or otherwise?

Grammar

This includes use of complete sentences, proper punctuation, subject-verb agreement, correct spelling, and so forth.

Strength of argument

- Did you provide thorough and sufficient evidence for your arguments/conclusions?
- Did you make a logical argument based on the information you provided?